TREES
Magazine

The Tree Man Swings High

National Shade Tree Conference—New York in August

EVALUATION OF SHADE TREES—*R. R. Fenska*

Q. AGRIFOLIA FOR STREET USE—*C. F. Holderness*

July, 1939

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Photo shows the four-foot Tree Bell embedded with a five-gallon can tree ball

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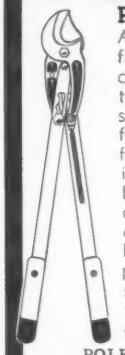

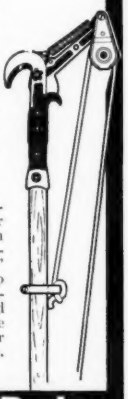

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TREES Magazine is a Quarterly Journal published at Santa Monica, California, by the Scanlon Publishing Company, and is devoted to the technical and business administration of Trees (Street and Ornamental); Parks (Municipal and National); and Forests (State, National and Private), in the U. S. Editorial and Business Address, 114 Santa Monica Boulevard, P. O. Box 886, Santa Monica, California. Telephone 24827. Subscription by mail, $1 per year. Advertising rates upon inquiry. Unsolicited manuscripts must be accompanied by postage return.

ALONG THE WAY

■ TREES would like to build up a picture directory of weeping trees throughout the country. Any that you may know of around your part of the country, we shall be glad to hear about. Let us know the exact location, variety, approximate size and, if you feel ambitious, send us a good picture.

• • •

■ *While driving 'along the way' down the San Joaquin Valley the other day, this sign sort of made us lift the right foot off the accelerator: "HONESTLY NOW . . . WHAT'S YOUR HURRY?"*

• • •

■ At one time or another in your career you have done a cavity job of which you are particularly proud. Send us a picture of it with all the details, and we shall run it in a future issue of TREES. Don't be bashful now; shoot it in!

• • •

■ *Friend ED WATERHOUSE of San Diego corrects us by informing that W. ALLEN PERRY, himself and PERCY BROELL were certified as park directors in the order named, and that Mr. Perry succeeds John Morley as Superintendent of Parks. It was an honest mistake on our part, Ed—many thanks.*

• • •

■ A tree of striking beauty is *Zelkova serrata.* Saw some beauties in the SACRAMENTO PARK DISTRICT. Wonder why it is not more commonly used?

• • •

■ *Where did HAROLD MACFADDEN of the DEL AMO NURSERIES hide that shiny new camera just shortly after I admired it "too" much at the HUNTINGTON BEACH meeting of the California Association of Park Executives?*

• • •

■ WALTER KIPLINGER tells of a new kind of chlorosis in NORTHERN MICHIGAN. It occurs only on trees IN FRONT OF BILLBOARDS.

• • •

■ *Saw a HORSE CHESTNUT in OAKLAND while at the WESTERN SHADE TREE CONFERENCE that had sort of backfired. One-half had red, the other, white blossoms. A street of these would be something. After all, my friends, the public likes a show. This may not sound practical, but that tree was SHOWY.*

• • •

■ Several interesting trees for narrow parkways—eighteen inches to three feet—were observed. *Crataegus oxyacantha, Acer oblongum* and *Citrus aurantium.* The latter, *Seville orange,* is *sensational;* it grows to about 25 feet, small fruit, beautiful foliage—unsurpassed for narrow streets.

• • •

■ *"WHAT I KNOW ABOUT TREES" is the title of a book introduced at the Western Shade Tree Conference that caused quite a lot of comment.*

• • •

■ PROF. H. E. McMINN, of "AN ILLUSTRATED MANUAL OF PACIFIC COAST TREES" fame, was a welcome delegate at Oakland. We'd like to have an invitation to visit him at MILLS COLLEGE soon. (It's a girls' school.)

THE COVER PICTURE—

Courtesy of George Van Yahres, Westburg, Long Island.

■ *PAUL DAVEY has broken into the editorial field in a most auspicious manner. "BEAUTIFUL SHADE TREES," his baby, is a four edition seasonal sales promotion "magazinelet" with beaucoup merit. Very beautifully done and meaty.*

• • •

■ Maunsell Van Rensselaer, Curator of the Blaksley Botanic Garden in SANTA BARBARA, informs the name of the garden has been changed to the SANTA BARBARA BOTANIC GARDEN.

• • •

■ *BOB WEAKLEY, Director of the Howard Tree Research Laboratories and President of the SOUTHERN SHADE TREE CONFERENCE, returned to his home in Warren, Pa., last month, after having spent the winter season at his West Palm Beach, Florida, home.*

• • •

■ MRS. HARRY M. GRIFFIN, of Daytona Beach, Florida, when elected recently as President of the Florida Federation of Garden Clubs, becomes EX-OFFICIO VICE-PRESIDENT of the SOUTHERN SHADE TREE CONFERENCE upon the retirement of MRS. PORTER BALDWIN, of West Palm Beach, Florida, the former President of the Florida Federation of Garden Clubs. The garden clubs of Florida are actively supporting the program of the SOUTHERN SHADE TREE CONFERENCE, to be held on the UNIVERSITY OF FLORIDA CAMPUS, GAINESVILLE, next FEBRUARY 22 AND 23.

• • •

■ *CARL WOLF, of the SANTA ANA BOTANIC GARDEN, passes on a fine formula of an ink for inscribing on plant labels. Take any amount of muriatic acid, drop in pieces of copper 'til the mixture becomes the consistency of paint. Color with copper sulphate. Very good, says Carl; has stood up for over eight years.*

• • •

■ Smart people, these Japs. In SACRAMENTO, they have cooperated with the PARK DEPARTMENT in planting CHERRY BLOSSOM TREES throughout their business section. In the spring, the traffic jams are terrific. And the white business man cries about business! He should use his head for something else other than merely a place for the barber to clip hair from. TREES in BUSINESS DISTRICTS are a PROVEN ASSET.

■ *NATIONAL SHADE TREE CONFERENCE exhibits and demonstrations this year will be tops, says top sergeant NORM ARMSTRONG. Glad to hear it. CO-OPERATION with COMMERCIAL CONCERNS has been a WEAK LINK in our profession up to the past few years.*

• • •

■ The Public Relations Department of the SOUTH CAROLINA FORESTRY DEPARTMENT has a very busy man in C. H. SCHAEFFER, Asst. State Forester. His news releases are all interesting and pertain chiefly to the beauties of South Carolina's arboreal features.

• • •

■ *BOB THOMPSON landed in the fair City of the Angels t'other day. We had quite a gab session. Showed him my favorite street of trees—JACARANDAS IN BLOOM. The beauty of those purple enshrouded crowns is REALLY SOMETHING. Belongs to the bignonia family.*

From what BOB said about that get-together at WEAKLEY'S after the SOUTHERN SHADE TREE CONFERENCE, I MISSED SOMETHING!

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ORTHO SCIENTIFIC PEST CONTROL

Reg. U.S. Pat. Of.

July, 1939 Volume 2 — No. 3

EDWARD H. SCANLON, Editor and Publisher

"No place is complete without trees. A home without trees is charmless; a road without trees is shadeless; a park without trees is purposeless; *a country without trees is hopeless*"

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CORDIALLY YOURS

FOR COOPERATION AND UNITY

There are many uses to which trees are put and some of these uses have given birth to interesting professions. In some, trees are the most important phase of the work; in others, they have a minor role; regardless, the administrators are all deeply interested in the things affecting trees.

The planting and care of trees on city streets was found to be a major problem of park administration and, in most large cities, necessitated the creation of a city forester's office. Tree care on private estates and large public and private institutions boomed the rise of the arborist (incorrectly called tree surgeon). The tremendous growth of the automobile industry and the resulting widespread travel it created aroused the motoring public to clamor for improved highways, both from an engineering standpoint and the esthetic. This led to the creation of highway landscape engineers. In the beautification of highways, trees play an important role and the increasing maintenance of these trees is becoming a major problem for state highway departments. In some states, it has resulted in the employment of trained arborists and the organization by districts to meet the problem.

Landscape architects differ, in their work, greatly from landscape engineers, but unquestionably the tree is the most dominant factor in creating beautiful landscapes. The forester deals with "wild" trees, but even here there has been a great increase in interest of recent years in the ornamental aspects of trees due to the increasing number of park and recreation areas in State, County and National Forest areas.

Now it appears to me, after almost two years of publishing TREES, that too great a gap exists between these overlapping professions dealing with trees. The gap may be caused by indifference, but without one bit of doubt, one cannot claim a comprehensive knowledge of trees without a fair understanding of the principles and problems of the related tree professions.

One of the objectives in the launching of this publication was to try and correlate these various groups into a united front, to increase one another's knowledge and in so doing to secure greater cooperation, and endorsement from the public. Greater interest in and knowledge of the need and use for trees by the public can only redound to the benefit of those engaged in these pursuits.

To date too much of a feeling of aloofness has been exhibited by certain groups and while they have suffered most—

the whole has suffered by lack of coordinated punch. No one group has a corner on the brain market—the other fellow may be doing a job that has its place culturally and esthetically. Join forces. Think it over and come out fighting!

AN OVERSIGHT!

It seems that to date an important advantage of the various regional Shade Tree Conferences has been overlooked by those who have given so much to the success that has been attained. The point in mind is that those supervising, men who work on trees, have neglected to permit these men to attend the conferences. Park superintendents, city foresters, managers of tree preservation companies and others have overlooked a splendid opportunity both for building interest in the conferences they so enthusiastically endorse, and for creating a finer *esprit de corps* among their men. The psychology here is unquestioned.

Another important element here is the fact that these men are the ones who do the sawing, chopping—the manual work. The important discussions and readings will be received at first hand, will be much more readily assimilated and more actively put into practice when received in the atmosphere surrounding such a gathering of scientists and others.

The National Shade Tree Conference meeting next month in New York could well afford to direct some effort in the attainment of this objective. It is also hoped that the Western and Southern Shade Tree Conferences work along this front for their coming meetings.

FORESTS FOR USE

Tree were placed upon this earth solely for service to man. The Maker in creating this greatest of the plant family knew that much of the great forest resources of the earth would be wasted; used indiscriminately and unintelligently, but He also knew that man in his ever-widening search for, and acquisition of knowledge would eventually realize that the forests were exhaustible, and in his knowledge would devise ways and means of using the forests to insure their perpetuity.

The folly of waste, the catastrophes, human suffering, life and property losses that result from misuses of forests was recognized years ago by many wise foresters and conservationists.

Their cries have been heeded and a turn has been made in the direction of sound forest management, but have not some conservation groups leaned a bit backward in their zeal?

The fact still remains that forest trees were meant for use. Trees live and die just as man. The parallel here is close. Man reaches his most useful period at about the age of 45; of course, we cannot exterminate humans at this age. The age of maturity in tree species varies, but if we permit them to pass this period, decline, die, then topple to earth, of what use has it been to man? None. Many conservationists, however, are preaching this doctrine today in demanding that certain forest areas shall be spared from the axe and be designated as "primitive" areas. Very pretty, but not very practical.

We have an ever-increasing problem of unemployment, we buy increasing amounts of import pulpwood and we continue to become increasingly sentimental.

We should wake up and realize that our forests managed on a productive basis will supply pulp, timber and lumber for present and coming generations and still retain its primeval beauty, its recreational value and its flood and weather control properties to a greater degree of efficiency and return than our present unbalanced teetering between the extreme of destruction and the other extreme of sentimentality.

VIRGE WADSWORTH has passed on. His death will be mourned by many close friends made through years of activity in the big-tree moving business. For the past three years he had been associated with Keith Peck in the firm of Peck and Wadsworth. Virge stood for everything that bettered his profession and his passing is a blow to a fine cause.

ODDITREES

Phytolacca dioica Linn.—South America is its native habitat where the natives grateful for its dense shade call it "Bella Sombra." Also called "Ombu." Wood very light weight, pithy. Rapid grower, semi-deciduous in Southern California. Because of the tremendous size of the low-spreading buttressed base, it can only be used as a specimen in parks where it attracts wide attention. Should be planted more for this reason. Is a very beautiful tree in full foliage, having very dark green elliptic shaped leaves. The tree pictured here stands in the Inglewood cemetery, Inglewood, Calif.

NEW SUBJECTS IN TREE PEST LEAFLETS

According to information received ten more Tree Pest Leaflets are now available. They are Numbers 31 to 40, inclusive, in the series of such leaflets which are being edited by a committee of the New England Section of the Society of American Foresters, and are published by the Massachusetts Forest and Park Association, Boston.

The ten new pamphlets which have now been added to the series are to be distributed at a price of $10.00 per thousand. But this price applies only on orders for one thousand or more.

The subjects of the new leaflets are:

No. 31. Spraying and Dusting to Control Insects and Diseases.
No. 32. The Strumella Disease of Hardwoods.
No. 33. The Nature of Fire Damage to Northeastern Forests.
No. 34. The European Spruce Sawfly.
No. 35. Willow Scab.
No. 36. The Imported Willow Leaf Beetle.
No. 37. The Spruce Budworm.
No. 38. Spongy White Rot of Hardwoods.
No. 39. The Brown-Tail Moth.
No. 40. Forest and Shade Tree Aphids.

Q. Agrifolia for Street Use

By C. F. HOLDERNESS
City Forester
Pasadena, Calif.

This tree needs little introduction to tree lovers of Southern California for it is familiar to most people and numbers a great many enthusiastic supporters. Such a place among the host of plants that abound in the compromising climate of California makes the Live Oak (*Quercus agrifolia*) indeed a worthy tree. The initial cost and facility in propagation are one of its many desirable qualities as a municipal shade tree.

It germinates readily from an easily accessible supply of seed and is not subject to young plant diseases, being a thrifty seedling even at low temperatures.

The adaptation of a tree to the varying soil types that occur throughout a city, not to mention the soil and climatic irregularities that are to be found over the southern part of the State, place some very stringent regulations on a choice of plant. This problem is expressed in soils so acid they range up to 8.0 and sink to alkaline levels of 5.0. Soil types and structures in an area as small as Pasadena numbers some 6 or more variations. Going from such extremes as sandy and gravelly loam to Ramona loams and Altamont clay. Many failures of the past in tree planting have been due to the overlooking of these climatic and geophysical conditions. Some few trees have the ability, however, of suiting themselves to a wider latitude of soil and climatic conditions than most. One of such trees, I believe, is our California Live Oak.

—Photos courtesy C. F. Holderness.

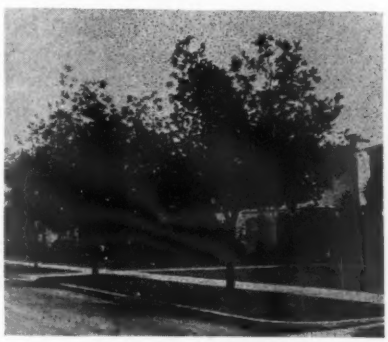
A 39-year-old Street of Oaks in Pasadena.

It may be seen naturally clustered along alluvial streams or growing on dry mesas, or again dotting the rolling hills from the sea coast to 100 miles in the interior. Another factor in determining the worth of a tree is its growth rate. Whenever I find myself discussing trees with the average layman it seems that one of his first questions is "does it grow rapidly?" There are many trees which are faster in maturing than the Oak, yet despite its backwardness the first two or three years, over a ten year period it will measure very favorably with most other trees. It is interesting to note that over a period of seven years the writer has kept a close check on several varieties of trees in their comparative growth rates. These checks have resulted in the following conclusions. The native Oak is faster in growth than the Magnolia under most conditions, and the same is true of the Camphor in comparison. The surprising fact that the Oak compares almost equally with the Carob only further establishes its right to be classed at least as a moderately quick growing tree. The subjects for this test have all had equal conditions under which to grow and although the care received is somewhat more than in the case of the average street tree, the results were very indicative.

The ever present problem of pests and diseases raises itself of course with the Oak as with all other plants. Insects and pests are of minor concern with this tree, however, from a public tree standpoint. The spring finds usually an infestation of the larvae of California Oak moth, but rarely do they occur in sufficient numbers to greatly damage the plant. The Crown White Fly, although appearing in great masses on the under side of the leaves, does a negligible amount of harm.

Pathological diseases on the other hand are of a more serious nature. The most important in relation to its seriousness is the Oak root fungus as the Live Oak serves as a prominent host to this disease. Generally in well drained soils, if the tree is healthy, the chances for infection are reduced to a minimum.

A time worn admonition in tree planting, ie., "plant trees far enough apart," applies very emphatically to the tree discussed in this paper. It is tragic in avenue plantings to see these trees set out 30 to 40 feet apart with no concern given to their eventual size. Such planting practically reduces trees to a hedgerow —not stately specimens. If the Oak is planted 75 to 100 feet apart as it should be, there is the practical problem of supplying a quicker and heavier planting for the time at hand. When such a condition exists the use of some of the very attractive acacias may be interplanted to give the immediate effect desired. With their attractive compound foliage and rich yellow bloom they furnish a delightful filler. Being short lived, they could be removed in 15 to 20 years as the Oaks will have reached noticeable size by this time. In connection with this matter is the choosing of sufficient parking width to accommodate a tree of this size. Certainly six feet as a minimum and preferably eight feet is to be greatly desired.



Ten-year-old Live Oaks.

(Continued on page 17)

Fifteen Years of Shade Tree Progress

By L. C. CHADWICK
Secretary-Treasurer
National Shade Tree Conference

When the National Shade Tree Conference convenes in New York City, August 22-24, 1939, it will mark the Fifteenth Annual Conference held by this organization. Composed of arborists, others engaged in the practice of tree preservation, and those engaged in research, instruction and regulatory work pertaining to shade tree welfare, it is a notable organization of the shade tree profession.

August 25 and 26, 1924, should be stamped as a memorable date in the minds of all who are interested in shade tree preservation practices. On those dates the foundation stone for what a year later became the National Shade Tree Conference, was laid, and upon such a firm basis, that the organization has gone steadily forward. Today it stands as an organization devoted to the principals of cooperation among those engaged in shade tree preservation practices, of fostering scientific investigations of various problems encountered in the practice of tree preservation and to the dissemination of information pertaining to shade tree welfare.

This dissemination of information by the National Shade Tree Conference has been largely responsible for the advancement of arboriculture during the past decade. Each year the conference sponsors an annual meeting devoted to the exchange and presentation of information that will aid in the improvement of the practice of shade tree preservation. Members of the organization have an opportunity to discuss timely questions and to view and study leading materials and equipment used in tree preservation practices. Here is an opportunity to meet with three to six hundred other persons interested in shade tree care. The value of such contacts cannot be overemphasized.

Shortly after the annual meeting members receive a copy of the Annual Proceedings. This publication of about two hundred pages contains a complete record of all papers and discussions given at the meeting. In addition to the Proceedings, the National Shade Tree Conference publishes *Arborists News*. This eight-page leaflet issued monthly, is devoted to interesting case histories, case records, or to short articles on subjects pertaining to the shade tree profession, as well as abstracts from current literature which pertain to the profession. Arrangements are made for abstracting some thirty-five scientific journals and trade papers. The Annual Proceedings and Arborists News contain the important information pertaining to the Shade Tree profession. Those who wish to keep abreast of the times, to progress with the other members of the profession, cannot afford to be without these publications.

Membership in the National Shade Tree Conference is of four classes. Active membership is confined to individuals principally engaged in commercial arboriculture or tree preservation. Associate membership is confined to representatives of governmental agencies whose duties are concerned with the preservation of trees; landscape architects; estate, park or cemetery superintendents and consulting arborists. Scientific members are representatives of educational or research institutions whose work is concerned with tree preservation. Commercial membership is confined to nurserymen, manufacturers or distributors of materials and equipment used in the practice of commercial tree preservation. Active and commercial members pay ten dollars dues, associate members pay five dollars, and scientific members two dollars. These dues are very nominal, considering the benefits derived from membership in the National Shade Tree Conference. Further information on membership in the National Shade Tree Conference and the forthcoming 15th Conference can be obtained by writing to L. C. Chadwick, Secretary-Treasurer, Department of Horticulture, Ohio State University.

Remember the 15th National Shade Tree Conference in New York City, August 22-24, 1939. Members and others who have attended past conferences need not be urged to attend. They can't be kept away. To those who are not so well acquainted with these meetings, an interesting and instructive program will be provided. Some twenty-five papers on timely shade tree care will be presented. The latest in tools, materials and equipment will be on exhibition. A full half-day will be devoted to a field demonstration of these tools and equipment. Plan to visit the World's Fair City during the National Shade Tree Conference week. Attend the Conference and the Fair, they will be memorable occasions. A complete program of the 15th National Shade Tree Conference will be sent upon request to the secretary.

TENTATIVE PROGRAM FOR THE NATIONAL SHADE TREE CONFERENCE

Hotel Astor
New York City
August 22-24, 1939

TUESDAY, AUGUST 22

Morning

9:00-12:00. Registration.
A half day with the Trade Exhibits.
National Arborists' Association. Closed meeting for members only.

Noon. An opportunity to attend the Rotary, Kiwanis, Lions, etc., clubs.

Afternoon

1:30. Address of Welcome: Hon. Fiorello H. LaGuardia, Mayor of the City of New York.
Response: Karl Dresell, President National Shade Tree Conference.

2:00. The Place of Parks and Parkways in American Civilization. Robert Moses, Commissioner, Dept. of Parks, New York City.

2:30. Tree Therapeutics. E. G. Rex, Supervisor, Plant Pest Control, State Dept. of Agriculture, Trenton, N. J.

3:00. Discussion.

3:15. Business Meeting of the National Shade Tree Conference—members only.

Evening

7:30. An evening with the exhibitors. Each exhibitor will be given 5 to 10 minutes to discuss his exhibit.

WEDNESDAY, AUGUST 23

Morning

9:00. The Use of the Rapid Soil Tests in Arboriculture. M. F. Morgan, Prof. Agronomy, New Haven, Conn.

9:30. The Physiology of Trees. A. J. Heinicke, Prof. Pomology, Cornell University, Ithaca, N. Y.

10:00. Discussion.

10:15. The Distribution of Roots of Moline Elms in Relationship to Fertilizer Application. L. C. Chadwick, Prof. Horticulture, Ohio State University, Columbus, Ohio.

10:45. The Relationship of the Soil Environment to Root Growth. H. L. Jacobs, Davey Tree Expert Co., Kent, O.

11:15. Discussion.

Afternoon

1:30. Field Demonstration of commercial equipment.

Evening

7:30. Annual Banquet. Entertainment and Dancing.

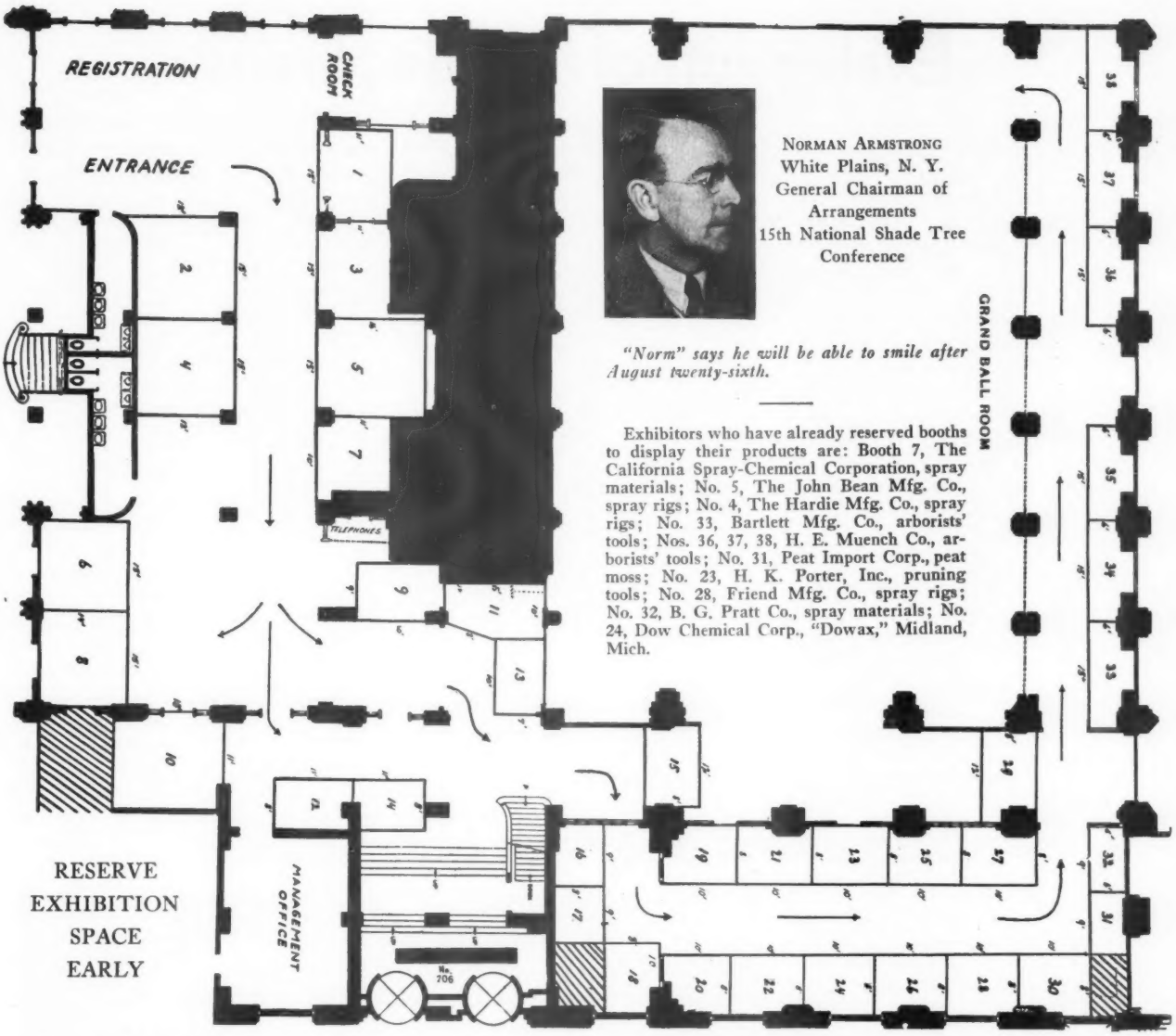
THURSDAY, AUGUST 24

Morning

Morning session to be devoted to group meetings.

(1) Commercial Arborists. Program in charge of the National Arborists Association.

(2) Associate membership group: For representatives of governmental agencies concerned with tree preservation practices, estate, park and cemetery superintendents, etc. City and Governmental Control Problems.



NORMAN ARMSTRONG
White Plains, N. Y.
General Chairman of Arrangements
15th National Shade Tree Conference

"Norm" says he will be able to smile after August twenty-sixth.

Exhibitors who have already reserved booths to display their products are: Booth 7, The California Spray-Chemical Corporation, spray materials; No. 5, The John Bean Mfg. Co., spray rigs; No. 4, The Hardie Mfg. Co., spray rigs; No. 33, Bartlett Mfg. Co., arborists' tools; Nos. 36, 37, 38, H. E. Muench Co., arborists' tools; No. 31, Peat Import Corp., peat moss; No. 23, H. K. Porter, Inc., pruning tools; No. 28, Friend Mfg. Co., spray rigs; No. 32, B. G. Pratt Co., spray materials; No. 24, Dow Chemical Corp., "Dowax," Midland, Mich.

(3) Scientific Membership Group: Representatives of educational or research institutions whose work is concerned with Shade Tree Preservation Practices.

Section for Commercial Arborists. (Program arranged by W. O. Hollister, Secretary of the National Arborists' Association.)

9:00. Wage and Hour Legislation. Martin M. Reed, Attorney, Pittsburgh, Pa.

10:00. Workmen's Compensation Pertaining to Shade Tree Workers. H. T. Knudsen, Aetna Life Insurance Co., Hartford, Conn.

11:00. State Shade Tree Laws and Tree Expert Laws.

Section for Associate Membership Group

9:00. Roadside Improvement and the Problem of Line Clearance. J. M. Bennett, Supt. Parks & Forestry, Wayne County, Detroit, Mich.

9:30. The Development of a Successful Shade Tree Commission. F. S. Eaton, New Haven Park Dept., New Haven, Ct.

10:00. Discussion.

10:15. What the Summer Has Taught Us About Hurricane Injury. Philip E. Alden, Forestry, New Jersey Federation of Shade Tree Commissions, Kearny, N. J.

10:45. Organization and Management of City Shade Tree Problems.
City Parks: Samuel N. Baxter, Landscape Gardener, Fairmont Park, Philadelphia, Penn.
Cemeteries: T. B. Claxton, Cave Hill Cemetery, Louisville, Ky.
Street Plantings and Forestry Problems. Carl P. Witte, Horticulturist, Essex County Park Commission, Newark, N. J.

11:15. Salt Spray Injury. Raymond H. Wallace, Connecticut State College, Storrs, Conn.

Section for Scientific Membership Group

9:00. Virus Diseases of Forest and Shade Trees. R. Kent Beattie, Principal Pathologist, Bur. of Plant Industry, Washington, D. C.

9:30. Root Rots and Resinosis of Conifers. H. H. York, University of Pennsylvania, Philadelphia, Pa.

10:00. Discussion.

10:15. Sphaeropsis Die-back or Twig Blight of Shade Trees. Rush P. Marshall, Pathologist, U.S.D.A. Bur. of Plant Industry, New Haven, Conn.

10:45. What's Ahead in Dutch Elm Disease Research? Curtis May, Senior Pathologist, U.S.D.A. Dutch Elm Disease Laboratory, Morristown, N. J.

11:15. Some Outstanding Needs for Research in Tree Husbandry.
General Arboriculture: C. G. Deuber, Dept. Botany, Yale University, New Haven, Conn.
Pathology: D. S. Welch, Dept. Plant Pathology, Cornell University, Ithaca, N. Y.
Entomology: J. S. Houser, Dept. Entomology, Ohio Agr. Exp. Sta., Wooster, O.

11:45. Discussion.

Afternoon

2:00. Business Meeting.

3:00. Beautifying the World's Fair—Tree Planting and Landscape Development. Henry C. Nye, World's Fair, New York City.

3:30. Discussion.

3:45. Adjournment.

Evaluation of Shade Trees

By R. R. FENSKA
Bartlett Tree Expert Co.
White Plains, N. Y.

How much is a shade tree worth? The average man will reply, "I don't know." When a storm uproots a nice elm or an oak it is usually a total loss. The federal, as well as the state government, however, will permit you to make deductions for this loss if you can determine its value in dollars and cents.

Therefore, the question arises: How can one determine the value of a shade tree? Several factors must be taken into consideration, such as the kind of a tree, its size, location, physical condition and the land value on which it stands.

It is quite evident that trees like oaks, elms and sugar maples are more valuable as shade trees than cottonwoods, box-elders, catalpa or locust. Others are in between these limits. Furthermore, a tree with a ten inch trunk diameter is worth more than one with only five inches.

Location is a very important factor in the value of a shade tree. A specimen on some front lawn is worth more than the same tree would be in the rear of a house or along the boundary of the lot. Its physical condition must also be taken into account in its appraisal. A tree with no decayed areas and a well formed crown or top rates high, while the opposite holds where such is not the case.

Still one more factor must be considered before we can appraise a shade tree and that is the value of the land on which the tree stands. This is usually determined from the tax rolls for the community.

Taking all of the above factors into consideration we can now apply a definite procedure or formula to determine the value of any shade tree.

First, we measure the diameter of the trunk of the tree at breast height, known among foresters as D.B.H. (diameter breast high). From this measurement we determine the number of square inches in the cross-section of the trunk. For instance, a tree trunk ten inches in diameter has an area of 79 square inches in the cross-section. For many years the basic value of the average shade tree has been accepted as equivalent to one dollar for each square inch of cross-sectional area. This would make the above 10-inch tree worth $79. This would be accepted for trees like the American elm, the sugar maple or the red oak. However, no argument is necessary to prove that a fourth-rate tree, like black locust, is not worth as much as the elm. But how much less should the locust be rated in comparison with the elm.

The following list gives some of our more common shade trees and their comparative values as accepted by the arborists or tree experts:

A—(100 to 80%) Value

American Elm (*Ulmus americana*).
Sugar Maple (*Acer saccharum*).
Red Oak (*Quercus borealis*).
Scarlet Oak (*Quercus coccinea*).
White Oak (*Quercus alba*).

B—(80 to 60%) Value

American Beech (*Fagus grandifolia*).
Black Walnut (*Juglans nigra*).
European Linden (*Tilia vulgaris*).
Magnolia (*Magnolia grandiflora*).
Norway Maple (*Acer platanoides*).
Oriental Plane Tree (*Platanus orientalis*).
Pin Oak (*Quercus palustris*).
Red Gum (*Liquidamber styraciflua*).
Scotch Elm (*Ulmus glabra*).
Tulip Tree (*Liriodendron tulipifera*).
White Ash (*Fraxinus americana*).

(Continued on page 15)

Successful Western Conference

An important step in the advancement of professional arboriculture was taken when the Western Shade Tree Conference at its Sixth annual meeting in Oakland, Calif., April 27-28, voted unanimously to open discussions for affiliation with the National Shade Tree Conference.

Discussions with National leaders will be conducted by Fred Roewekamp (Park Engineer, Los Angeles Park Department), newly elected President for the Seventh Conference, and Edward H. Scanlon, re-elected Secretary-Treasurer. The results will be given to the Seventh annual meeting which will be held in Los Angeles, May 23-24, 1940.

The Sixth Conference had an excellent registration of over one hundred and hearty congratulations are in order for Ed Sanborn, President, and Tom Heaton, Chairman of the Local Arrangements Committee, for their splendid work. Reinhold von Wetter, Oakland Landscape Architect, performed valiantly on the local committee as did Roger Sohner and Emanuel Fritz.

Western Shade Tree Conference in Oakland last April. Incoming President Fred Roewekamp "shakes" to a big 7th meeting with outgoing President Ed Sanborn.

A highlight was a luncheon talk by George E. Chamber, Federal Housing Administrator, in a discussion on the F. H. A.'s street tree planting policy with regard to new sub-divisions. A plea was

(Continued on page 12)

Back Pack Pumps on the Fire Line

By J. S. BARROWS
Assistant Forester, National Park Service
Washington, D. C.

Fire fighters everywhere are in agreement on the fact that water, if available in sufficient amount, used in the correct manner, and at the proper time, is one of the greatest of all aids in fire suppression. This has long been recognized by the city fire departments throughout the Nation where water is quickly available from hydrants or other sources, and in checking on the history of man's battle with forest fires it will be found that the timely application of the precious liquid has likewise been a vital agency in controlling thousands of conflagrations.

The forest fire fighter, not having the advantages of conveniently located hydrants or preinstalled sprinkler systems, must resort to other means of taming the flames with water. Present-day facilities include tank trucks equipped with motor-driven pumps, portable pumpers which may draw water from streams and lakes, and small containers with manually operated pumps which may be carried and used by one man. The latter, commonly known as the back pack pump, is the most widely used of all types of water equipment available for forest fire suppression work.

The successful application of water through the medium of the back pack pump is dependent upon two main factors, namely, maintaining the equipment in proper condition and using the water correctly.

There are several types of back pack pumps, including canvas bags, rubber bags, and metal tanks, all used in conjunction with hand-operated pumps. To insure efficient operation of any of these various types all of the parts must be in good condition and the entire unit ready for instant action on the fire line. The best method to accomplish this is to develop some routine method of inspection. Nozzles may become clogged with a small leaf or pebble; tanks may develop leaks; the plunger packing may need replacing or the carrying straps may become worn. Any of these defects which may develop even though they appear to be of minor nature can easily hinder the proper operation of the equipment and consequently reduce the efficiency of the fire suppression work.

—*Photo courtesy National Park Service.*
The back pack pump mops up.

The inspection system should consist of something more than just a glance at the equipment during a visit to the fire cache. Each time after the back pack pumps are returned from service on fires and at periodic intervals there should be a methodical testing of every unit. The inspector should have a definite plan for checking each part. He may start at the nozzle and proceed in a routine manner to the pump and its component parts, the hose and the tank or bag, being careful to investigate all items in order to discover any obstacle which may prevent the equipment from delivering water correctly. This practice is not necessary because of any weaknesses in the manufacture of back pack pumps, but is merely another part of the preparedness campaign, and that in itself is all important in the business of forest fire fighting.

With the equipment in proper condition and ready for action, the next job is to use it correctly. The act of putting water on a fire is a relatively simple job; nevertheless, experienced fire fighters agree that the back pack pump is often a piece of equipment that is not used to its fullest advantage. The job is not one of just playing a stream on the flames; it is one of carefully applying water in the proper amounts at the right time and at the right place.

The back pack pump may be used to cool the fire, to patrol the fire lines, to extinguish fires in mop-up work, or at times to do the entire suppression job. Whatever may be the specific use, one fundamental principle guides the technique of applying water on a fire—*make every drop count.* The average tank or bag holds about five gallons, which, if used properly, may be of real value in the battle with the flames.

Cooling the fire, or "hot spotting," as it is often called, is usually the first job for the back pack pump when the suppression crews go into action. The objective is to retard the fire momentarily in order that the remainder of the crew may construct a line in front of the blaze or directly along the burning edge. Here, as in other cases, the water must be used wisely, with careful consideration given to the available supply, for it is important that the cooling of the hot spots continue until the line has been completed. A spray type nozzle which spreads the stream is often useful in this job.

After a section of line has been completed it may be necessary to patrol it to insure that the fire does not break through at any point. The back pack pump may be used by the patrol men to prevent fires on the edge of the line from getting too hot, to extinguish small spot fires, which may be started by flying embers, or even to wet down some of the fuels on the unburned side of the line.

The mop-up job, or the act of extinguishing the remaining fire after the spread has been checked, is usually the job in which the back pack pump is of greatest service. Ironically enough, it is also the technique in which a great number of mistakes may be made in the use of water. The most common error, and the one which especially arouses the ire of the experienced fire fighter, is for the pump operator to stay too far away from the smoldering embers to be extinguished. The results of this practice are that a great part of the water either does not reach its mark or because of its momentum bounces away from the spot intended. In mop-up work the pump man must really be a "smoke eater," disregarding the temporary vexation of close contact with the pungent odors of smoldering vegetation or the discomfort of bending over to direct the streams to the heart of the fire. The nozzle must be kept close to the fire and the water carefully distributed to the vital spots. It is often well to remove the nozzle tip entirely, substituting the thumb to guide the stream to its proper destination.

Cavity Fills Resist Hurricane

By OSCAR F. BURBANK
Superintendent, Hope Cemetery
Worcester, Mass.

In the year 1935 at Hope Cemetery, Worcester, Massachusetts, we did considerable cavity and other tree work within the grounds. Among the cavity jobs were several large ones, all but one of which came through the September hurricane with little or no damage. The one which failed was a 40 ft. white oak standing at the corner of two avenues on a bank three feet above the road level. It was of this tree that I showed pictures as the Eastern Shade Tree Conference at New York, December 8, 1939. This oak was large and shapely and it was only on similar types of tree that repairs were made. We opened the cavity to a length of 14 ft., of which 2 ft. was below sod level. The average diameter of the hollow when cleaned for filling was about 20 in. It was cross braced, bolted and cables placed among the limbs.

Other jobs done at about that time are still intact. All of the wounds are healing well, and considerable new growth has been made. In many places this new growth is well over the edge of the cement filling and considerable new foliage had been made. The filling was in sections to allow for sway. When an inspection was made of the work early in 1938, the condition of all these trees was satisfactory and little has been done since the completion of the original job except to feed them. All had been headed back somewhat but not severely. The foliage was normal and of good color. There was no indication in any case of ill effect from the shock of the surgery.

The storm broke the tree just below the top of the filling. At that point the wood was not over 9 in. thick, on the side directly opposite to the wind direction. I believe that if the direction of the wind had been from 30 degrees or more either way that the tree would have come through. Under normal conditions it seems likely that this tree might have stood for many years. The continued thriftiness of other trees similarly treated is proof that the work was well worth while. All of the trees so treated were fine specimens and of considerable value. These other specimens included Oak of various kinds; Norway, Sugar, and Red Maple.

White Oak snapped in hurricane at top of cavity fill.

The direction of the wind during the hurricane was exactly southeast and so far as I could see, did not vary throughout the course of the storm. If it had varied, the destruction would have been infinitely greater here in the cemetery. The effect was as if it had been guyed from two points 120 degrees apart and the wind had blown from a quarter opposite to a point half way between. Of course we never guy trees as large as this.

It is difficult to place a value on a tree of this size, because replacement would be impossible but if we were to do so it would be many thousands of dollars. I have already set an 8 foot Red Oak in the same spot. This is a beautiful tree but, of course, will not fill the place of the one that was destroyed for a great many years.

Some of the things I have learned from the experience are: Good cavity jobs will stand heavy winds without failure if decay has not weakened it too much. This is an excellent reason for avoiding any delay in starting such work when first observed. Any attempt to save a fine specimen, well located, is worth while. It may be a gamble but hurricanes do not visit New England very often, so it ought to be a safe one.

The failure of the tree was, of course, due to neglect to repair before the cavity became so large, but these things can only be done when money is available. Had we anticipated such a wind we would have thinned out the foliage which might have saved it, but this is a question.

Western Conference

(Continued from page 10)

made for arborists and landscape architects the country over to work with the F. H. A. in compiling some basic fundamentals to be used as a guide in street plantings. The discussions centered on varieties, spacing and the subjugation of the personal property owners' desires to the whole design of the street or block.

An interesting and instructive program of technical papers came in for many fine discussions. These papers will be published in the annual Proceedings which can be obtained from the Secretary.

A splendid tour of the marvelous chain of mountain parks being developed in the East Bay region was a revelation to most of the delegates. The magnitude of the municipal park projects under the effervescent leadership of Ed Sanborn, left the majority contemplating, in awe, the priceless heritage of beauty and usefulness he is creating for the future of Oakland.

The fine Oakland Flower Show, a luncheon with The Business Men's Garden Club and a day, "Western Shade Tree Conference Day," at the Golden Gate International Exposition rounded out another of the highly successful Western Shade Tree Conferences.

The commercial exhibits came in for considerable attention and the efforts of the Conference in attracting interest to

(Continued on page 17)

Deciduous Trees for the Rockies

By WM. E. GUNESCH
Colorado State College

The Rocky Mountain Region, including western Montana, Idaho, Utah, Wyoming, Colorado, Arizona and New Mexico, is not abundantly provided with deciduous shade trees. The old standby, and the tree we associate with this region, is the Cottonwood. It helped to make western history; it was the tree which early settlers found growing along the creeks and river bottoms. They planted the Cottonwood about their homes and along their property lines. But that was before irrigation ditches wound their way across the eastern plains, making it possible to grow other better trees. Today there are more suitable trees for the irrigated suburban areas. The Cottonwood still reigns supreme along the waterways of the drylands; it brings joy and comfort to those living in a region where climatic conditions are adverse for many of our better trees.

The problem of selecting suitable shade trees for this region is difficult because there are so many environmental factors to consider. Much of the Rocky Mountain region is semi-arid, necessitating the use of trees that are rather drought-resistant. Hardiness is influenced by the elevation and the alkali condition of many soils makes chlorosis a real problem. Then, too, there is the danger of early wet snows. This conditions occurs generally in the foothills. In the Fall of 1932 an early wet snow fell in Denver. The elms had not dropped their foliage and as a result the wet snow lodged in the branches more than usual, causing an irreparable damage. The American Elm-lined streets were cluttered with limbs and branches. After witnessing this ruin you cannot help but wonder whether some other tree of more upright growing habits would not be more satisfactory for the suburban area where sufficient water is available, and at an elevation of 4,000 to 6,000 feet there are several satisfactory trees that warrant more use.

1. *Ulmus racemosa.* Rock Elm. Often referred to as Cork Elm. This tree is of upright growing habit, with branches extending horizontally with an upward sweep. It is very resistant to snow damage, and though slow growing, makes an excellent street tree. The corky bark is attractive in winter. Like other elms it is subject to scale.

2. *Quercus macrocarpa.* Mossy cup Oak. An excellent tree for the drylands as well as for irrigated regions. It will withstand severe drought. The leaves are dark green, and its graceful branching habit makes a beautiful shade pattern on the lawn. It is very resistant to snow and wind damage, is not susceptible to chlorosis and is perfectly hardy. It is slow growing and long lived.

3. *Quercus cocciniae.* Scarlet Oak. The brilliant fall foliage color of this tree makes it a most desirable addition to a fall landscape which is predominantly yellow. The bright green foliage in summer is borne on spreading branches and at maturity the tree is rather round-headed. It is probably more susceptible to chlorosis than *Q. macrocarpa.* But where there is good under-drainage it is very satisfactory.

4. *Celtis occidentalis.* Hackberry. A high crotching tree with spreading branches. It is rather coarse in outline but makes a fine round-topped shade tree. The foliage is light green, turning in the fall to light yellow. It is well adapted to this region, being very hardy and resistant to chlorosis.

5. *Acer platanoides schwedleri.* Schwedleri Maple. A dense globose tree with bright red foliage when young, turning to dark green in the summer. Schwedleri Maple is more resistant to chlorosis than Norway Maple. It is not so desirable a lawn tree because of its dense foliage. It does not break as easily as Silver Maple and thus should be used more extensively. Attractive fruit in the fall.

6. *Acer ginnala.* Amur Maple. A small graceful tree growing to 20 or 25 feet. The fruit is red during late summer and in the fall the foliage turns a bright red. It is hardy along the foothills. This tree makes a fine specimen tree when well cared for.

7. *Gleditsia triacanthos inermis.* The Thornless Honey-Locust. The irregular slender branching habit and the lacey foliage make it an excellent lawn tree. It is rather susceptible to borer injury but does not appear prominently in this region.

8. *Fraxinus excelsior.* European Ash. The foliage is a glossy dark green, which makes the black buds stand out very prominently. *F. excelsior* is not being grown extensively in this region. It warrants more consideration, being a more desirable specimen tree than either *F. pennsylvanica lanceolata* (Green Ash) or *F. american* (white Ash). It is fairly drought resistant. The objection most generally advanced for any ash is their susceptibility to scale.

9. *Ulmus pumila.* Asiatic Elm. Also known in trade as Chinese Elm. This tree has been used extensively through the dryland regions. It is very drought resistant. On irrigated lawn areas it is not very satisfactory. Under such conditions it makes a rapid, weak growth and is subject to snow and wind damage. In semi-arid regions its growth is much slower, resulting in a sturdier tree. *Ulmus pumila* makes an excellent windbreak.

10. *Populus acuminata.* This upright, rather round-topped tree is perfectly hardy to elevations of 6,000 feet. It is found growing vigorously on the western slope of the Rockies. The *Populus* is not so long lived a tree as the Oaks, but they do have their place in the Rocky Mountain region.

There are other fine trees that could be grown satisfactorily in this region. One of the drawbacks to the use of such trees at present is the fact that they cannot be obtained at the nurseries. The State Experiment Stations, and the United States Department of Agriculture are doing a great deal to make the public conscious of the better trees to grow. If the nurseries do not begin to produce these trees, the former effort is wasted.

The Bolleana Poplar is the most commonly used tree in this region where a narrow upright effect is desired, and yet there are undoubtedly better trees than the Bolleana for this purpose. *Acer rubrum columnare* is hardy enough to warrant its trial, as are others.

GREECE PLANTS TREES AS GREEN WEEK OBSERVED

Greece has just observed Green Week when ceremonies similar to those of Arbor Day in the United States were observed. Thousands of trees were planted in Athens, and more than a hundred groups participated in the day. The occasion was also made one of international good will for the ministers of the United States, Yugoslavia and Greece each gave trees to be planted.

South Carolina Adopts State Tree

By C. H. SCHAEFFER
Assistant State Forester

AN ACT
TO ADOPT THE PALMETTO TREE AS THE OFFICIAL STATE TREE OF THE STATE OF SOUTH CAROLINA.

WHEREAS, the Palmetto tree has been closely associated with the history of South Carolina, it being represented on our State Flag and on our State Seal; and

WHEREAS, the State is widely known as the "Palmetto State;" and,

WHEREAS, the State has no officially designated State Tree, and it would be quite appropriate to designate the Palmetto as the State Tree, now therefore

BE IT RESOLVED by the General Assembly of the State of South Carolina:

Section 1. That the Palmetto tree is hereby designated and adopted as the official State Tree of the State of South Carolina.

Section 2. This resolution shall take effect upon its approval by the Governor.

Ratified and approved by Governor, March 17, 1939.

The Palmetto (*Sabel palmetto* (Walt. and Totten) is found in abundance on Smith's Island at the mouth of Cape Fear River, N. C., where it reaches a height of 30 feet. This is as far north as these botanists have found it. The only other North Carolina location where they have found it is at Gaus's Landing in Brunswick County, North Carolina, which is seven miles north of the South Carolina State line. However, this location only contains a dozen trees approximately 15 feet high. In South Carolina this tree is quite common as far up the coast as Charleston. However, it is also found in abundance on South Island near Georgetown.

South Carolina is the Palmetto State and has been known as such since the Revolutionary War when Colonel William Moultrie successfully defended the hastily constructed fort of palmetto logs on the south end of Sullivan's Island against the British, June 28, 1776.

Although South Carolina has been known as the Palmetto State since Colonel Moultrie's band gallantly defended the palmetto fort, the palmetto was not adopted as the State Tree until the year 1939, when the Legislature had the matter called to its attention by Mrs. A. F. Storm, the energetic State Chairman of Conservation of Natural Resources for the Garden Clubs of South Carolina and the Federation of Women's Clubs of South Carolina.

In States to the south of South Carolina the palmetto is generally known as the cabbage palm, due to the fact that the tree is frequently cut down and the large solitary bud is cut out and used for food. In Florida there are a number of industries which cut the trees to extract the fiber around the bud and this fiber is used in making brushes and whisk brooms. Due to the abundance of the trees in Florida and its ability to reproduce fairly rapidly in these localities, possibly these industries in these localities should be encouraged.

The South Carolina Legislature in the spring of 1777 adopted the State Flag with the Palmetto Tree upon it and also adopted the State Seal of South Carolina with the Palmetto Tree upon it.

Federal Money For Plane Disease Study

Three years of effort were rewarded recently when a committee appointed at a University of Pennsylvania meeting under the leadership of Hollis Howe, City Forester of Baltimore, was informed that a $10,000 Federal appropriation has been approved to study the killing epidemic that is threatening the existence of one of America's finest city trees—the London Plane.

The disease was discovered some four years ago in the vicinity of Philadelphia and has spread rapidly in the last few years. A full discussion of the symptoms was given in a paper by Dr. L. W. R. Jackson, Division of Forest Pathology, U. S. Dept. of Agriculture, at the Eleventh National Shade Tree Conference held in Philadelphia in 1935. The full paper appears in the proceedings of that meeting.

The preliminary work under the recent appropriation will be conducted by Dr. Curtis May and Dr. Walter, two excellent men. An outline of their initial findings and future plans will be discussed at the National Shade Tree Conference next month in New York.

Cross and tangental sections of Sycamore showing streaks indicating the deadly Plane disease.

—Photo courtesy Baltimore Board of Park Commissioners.

FIGHTING FOREST FIRES WITH STAMPS

A million poster stamps, reproductions of the new forest fire prevention painting by the celebrated artist, James Montgomery Flagg, are being issued by the American Forestry Association in a nation-wide campaign this summer against man-caused forest fires. The stamps, in four colors, are designed for use on letters, envelopes and other mailing pieces, and are available in sheets of 100 stamps.

In announcing the new stamps, Ovid Butler, secretary of the Association, said: "Each year there are 172,000 forest fires which blacken an area equal to all New England, with Connecticut excepted. Their annual toll of forest, wild life and other natural resources destroyed or depleted is incalculable.

"Incredible as it may seem to some, the fact remains that of these 172,000 fires, 155,000, or 90 per cent, are man-caused, the result of thoughtlessness, carelessness and ignorance. Eliminate these man-caused fires and the country's forest fire loss each year would be insignificant. We believe that this can be done by concerted and sustained effort on the part of established conservationists. We believe that if each of the active conservationists in this country would seriously undertake to interest 100 other individuals in forest fire prevention, man-caused fires would diminish, would even disappear."

The stamps are available at $1.00 a sheet of 100 stamps—and may be obtained by writing the American Forestry Association, 919 17th Street, N. W. Washington, D. C.

Shade Tree Value

(Continued from page 10)

C—(60 to 40%) Value

Hackberry (*Celtis occidentalis*).
Horsechestnut (*Aesculus hippocastanum*).
Hickory (*Hicoria alba*).
Kentucky Coffee Tree (*Gymnocladus dioica*).
Maidenhair Tree (*Ginkgo biloba*).
Sour Gum (*Nyssa sylvatica*).
Sycamore (*Platanus occidentalis*).
Sweet Birch (*Betula lenta*).
European White Birch (*Betula alba*).
Silver Maple (*Acer dasycarpum*).

D—(40 to 20%) Value

Ailanthus (*Ailanthus glandulosa*).
Butternut (*Juglans cinerae*).
Black Locust (*Robinia pseudoacacia*).
Black Cherry (*Prunus serotina*).
Catalpa (*Catalpa bignonioides*).
Carolina Poplar (*Populus deltoides*).
Honey Locust (*Glenditsia triacanthos*).
White Willow (*Salix alba*).

In the above list the American elm with a well formed trunk and proportionate crown or head would rate 100%. If the proportion between crown and trunk is not quite what it might be it would be given only 90% or even as low as 80% of the ideal tree. The same holds for any other tree within the percentage limits for its group. For example, a 10-inch hickory is worth only 40 to 60% of a 10-inch elm.

A tree on a front lawn so located that it forms a feature of the landscape plan is of course rated 100% as far as location is concerned. The same tree in rear of the house is worth less, may be only 80% of its value out in front. If it is some distance from the main building or driveway it may rate only 60%, or even less. It is all a matter of its effect on the aesthetic value of the property. Practical judgment determines the percentage that must be used in each case. In the case of a perfect ten inch elm on the front lawn it would still be valued at $79, but for the same elm in the rear we would get only $63.20.

In the above discussion it was assumed that the ten inch elm was in good physical condition. If not, its value must be reduced in accordance with the percentage of defect. A tree with a scar may be worth only 90% of its full value. The ten inch elm on the front lawn mentioned above would in such a case bring only $71.10. The one in the rear, $56.88.

The residential value of land varies greatly. The tree that is located on land worth $10,000 an acre is, of course, more valuable to the place than on land selling for only half this amount. It has been found that the value of building lots in the average city is approximately on the basis of $2,000 per acre. This figure is therefore taken as a standard of value for land. Since this is an average figure there are, of course, residential areas which are lower and others higher, especially suburban lots near the larger cities. Referring again to the perfect ten inch elm on the front lawn worth $79, if this tree stands on the average city lot that is its final value. If, however, it was located on property worth $6,000 an acre it would be worth twice $79 or $158. On land valued at $12,000 an acre this tree would be worth three times $79, or $237.

Sometimes the value of a tree may be determined by the cost of its replacement, that is, the price for which a tree nursery company will furnish and plant a similar tree. In such cases the buyer should deal only with a reliable and well established firm. The average tree will leaf out the first season after it has been transplanted but it is the second, and sometimes the third, season before one

(Continued on page 16)

CITY ADOPTS PETUNIA

The city of Kankakee today had an official flower—the petunia—and also a new slogan, "Two petunias in every pot." The City Council adopted the flower on request of the garden department of the Kankakee Women's Club, which threatened election day reprisals if their demand was not met.

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The Modesto Ash

Some years ago a workman very determinedly swinging an axe walked up to a park tree in Modesto, California. The story does not state the time of year, but we will assume it was summer. He was warm; he wandered over to get a drink. Returning to his axe and his task, which was to remove the tree, he noticed that somehow this tree looked different from similar ones in the vicinity. It was.

The parent Modesto Ash in Modesto, California.

He called his superior who immediately countermanded the order to destroy the tree. A Modesto nurseryman, L. L. Brooks, was called to give his opinion. He said he figured it to be a cross between the Arizona Ash (*F. velutina*) and the Leather leaf Ash (*F. coriacea*). That is where the matter stands today.

It was necessary, in order to reproduce the tree, to graft. *Fraxinus velutina* was used as the stock with very great success. In the past ten years over 5,000 of these splendid trees have been planted on the streets and in the parks of Modesto, and one driving through these streets cannot help but be deeply impressed with the fine street qualities of the tree.

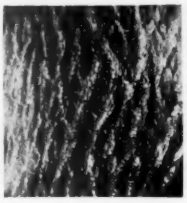
One of its finest characteristics is the drooping effect of the leaves. This is caused by a much slimmer petiole than have either the *velutina* or *coriacea*. This factor seems to be the most apparent botanical difference; otherwise, the tree greatly resembles *coriaceae*.

It is being used successfully in eleven Western states and is undergoing tests by a well-known Eastern concern to determine its adaptibility under conditions there.

The Modesto Ash is destined to see much service because of its beauty, and of equal importance, its almost total immunity to the ash tingid, mirid and jumping plant louse. Considering the damage done to the Arizona Ash by these pests, the Modesto should rapidly replace it where a fine fast growing deciduous street tree is desired.

Picture of a leaf

Bark of a mature tree



Shade Tree Value

(Continued from page 15)

can tell if the tree has been successfully moved and will live. Therefore, a guarantee which covers only the first year after transplanting is of little value.

It is interesting to note the value which has been placed on some exceptionally fine trees. On Long Island is a purple beech with a trunk diameter of five feet for which $5,000 has been refused by the owner. It cost this amount to move a three foot diameter magnolia tree in Washington, D. C. But the prize tree of them all was a magnificent white oak with a trunk diameter of 52 inches in Westchester County, New York. This tree stood in the path of an engineering project. The owner was asked to place a value on the tree. This was determined by an expert as $9,000. The owner, however, stated that she would rather have the tree. The contractor also decided that it would be cheaper for him to relocate his proposed excavations. Then as fate will have it, a storm swept up the Hudson Valley one day and ripped off one of the main branches and ruined its beauty and landscape value. It was finally cut down to the ground only a year after the owner had decided it was worth more than $9,000 in cash. Such are the "flummeries" of nature.

FORESTERS TEST CHEMICALS

Forest Service officials—chemists and foresters—have just completed the extinguishing of several hundred test fires in an effort to learn whether chemicals can be used to advantage in suppressing forest fires. The tests were conducted at the Wind River Experimental Forest on the Columbia National Forest, near Stevenson, Washington.

A street of six-year-old trees.

Live Oak on Streets

(Continued from page 7)

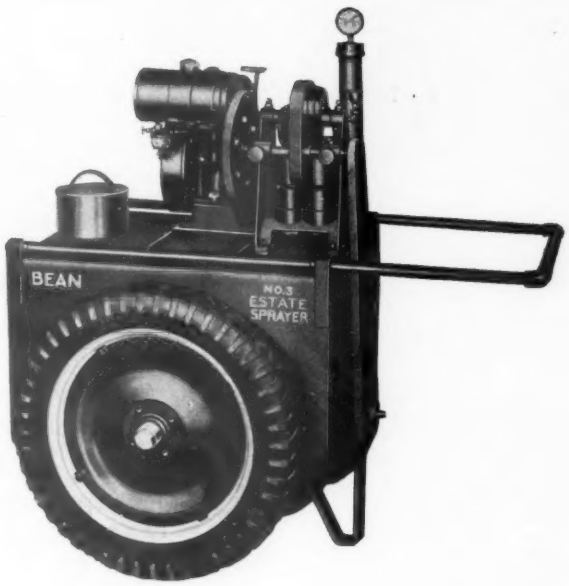
As the recent windstorm of February last wrecked havoc with so many trees and raised a multitude of questions, perhaps a word here would be proper. A number of mature Oaks from twenty to forty years of age were completely upturned and prostrated on the ground, but there were a great many more which stood securely. Many people felt that the Oak must be striken from the list of choice trees for this reason. However, there is a plausible and sound explanation regarding this occurrence. I am basing these observations from the local condition here in Pasadena, but am certain that they would apply throughout the south. The Oaks which were blown over were entirely in a section where a heavy Ramona loam existed. This top soil had a depth not to exceed three feet and underlying it was a gummy Altamont clay. The roots penetrated the top soil but on reaching this clay subsoil, flattened out in a virtual pan. In consequence when the trees went down they brought up a flat saucer of roots and sod in some cases measuring twelve feet across. Where these trees were planted in deep, loose Ramona sandy loam, without this hard pan, the roots penetrated to the intended depth necessary to support the heavy top weight and withstood the severe winds.

Western Conference

(Continued from page 12)

these people, who contribute so much to the successful and efficient performance of daily duties through their ever willingness to cooperate and create new tools and economical equipment, seems to be meeting with ever-increasing response. Exhibitors this year were: The John Bean Mfg. Company—spray equipment; H. V. Carter Company of San Francisco, with a display of H. K. Porter, Inc., pruning tools; Geo. Honn Company of San Francisco, with a display of the Bartlett Mfg. Co., pruning tools; California Spray-Chemical Corporation—spray materials; and A. A. Fanno Company of Chico, Calif.—pruning saws.

Officers elected for the coming year were: Fred Roewekamp, President, Park Engineer, Los Angeles Park Department; L. Glenn Hall, Vice-President, Landscape Architect of San Francisco; and Edward H. Scanlon, re-elected Secretary-Treasurer, Editor, TREES Magazine.



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Authors and Books

Richard R. Fenska, author of "Evaluation of Shade Trees" in this issue, is a Forester and Arborist of international repute. A resume of his past activities:

A product of the North Wisconsin woods when Paul Bunyan was there with his Blue Ox. Knew him well.

Graduate of Beloit College (Wis.) and Yale School of Forestry.

Taught forestry at the Univ. of Wisconsin, Wyman School of the Woods (Mich.), Univ. of Montana, and New York State College of Forestry. Forester for the Mass. Forestry Association, Field Engineer for the West Coast Lumberman's Association, Field Assistant in Civil Engineering Yale, Forest Assistant Wis. State Board Forestry, Fire Warden Mich. Public Domain Commission, U. S. Forest Service (Mont. and Idaho), U. S. Bureau of Public Roads (Idaho), Timber Appraisals for Pulp and Paper companies in U. S. and Canada. Study of Forestry in Europe, Delegate of the American Tree Association to the Second International Forestry Congress, Budapest, Hungary. At present forester and tree expert, Bartlett Tree Expert Co., White Plains, N. Y.

THE WORLD OF PLANT LIFE. Clarence J. Hylander. Macmillan Co., San Francisco and New York. 719 pp. Illus. $7.50.

A beautifully illustrated, thoroughly descriptive scientific treatise on plants for the layman. A careful study of this volume will give the reader a very comprehensive course in botany.

The forty-eight page check list of species makes a valuable reference.

AMERICAN HIGHWAYS AND ROADSIDES. Jac L. Gubbels. Houghton, Mifflin Co., Boston. 91 pp. Illus. $2.75.

One of the most important and most interesting horticultural professions—the state highway landscape engineer—is thoroughly discussed by a highly competent member of that group. The book describes the evolution of the modern American highway from the old "hogback" days to the modern era which is witnessing an almost daily erosion control, planting, cut and fill treatment, all dealt with in a most convincing style. Everyone interested in beautification should read this book and become acquainted with the many problems besetting the landscape engineer in his job of making our highways something more than merely a ribbon of concrete.

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cocoanut palm, which for over 3000 years has supplied man with food, copra, from which certain forms of fertilizer are manufactured, fiber and valuable oils.

Next in order of the world's most valuable trees are the almond, apple, fig, white mulberry tree, on which the silk worm lives, the olive, lemon, cinchona (which supplies quinine), and the indispensable rubber tree. The rise of world civilization would have been impossible without these trees.—*Thanks to Jim Draper, Calif. Spray Chemical Co.*

LEANS MORE THAN PISA TOWER

The Leaning Tower of Pisa, in Italy, long considered a world wonder, has its living counterpart in the famed Grizzly Giant, a towering Sequoia in Yosemite National Park. Figures from Yosemite reveal that the big tree, 209 feet high, leans 18.3 feet off center, or approximately four degrees and 58 minutes. So well known for its off-center angle of four degrees and 27 minutes, or 14 feet, the 179 feet high Tower of Pisa leans less than the Grizzly Giant.

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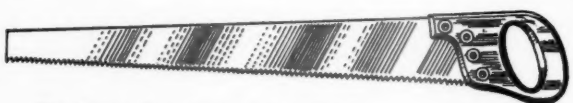

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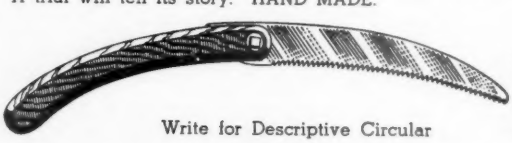

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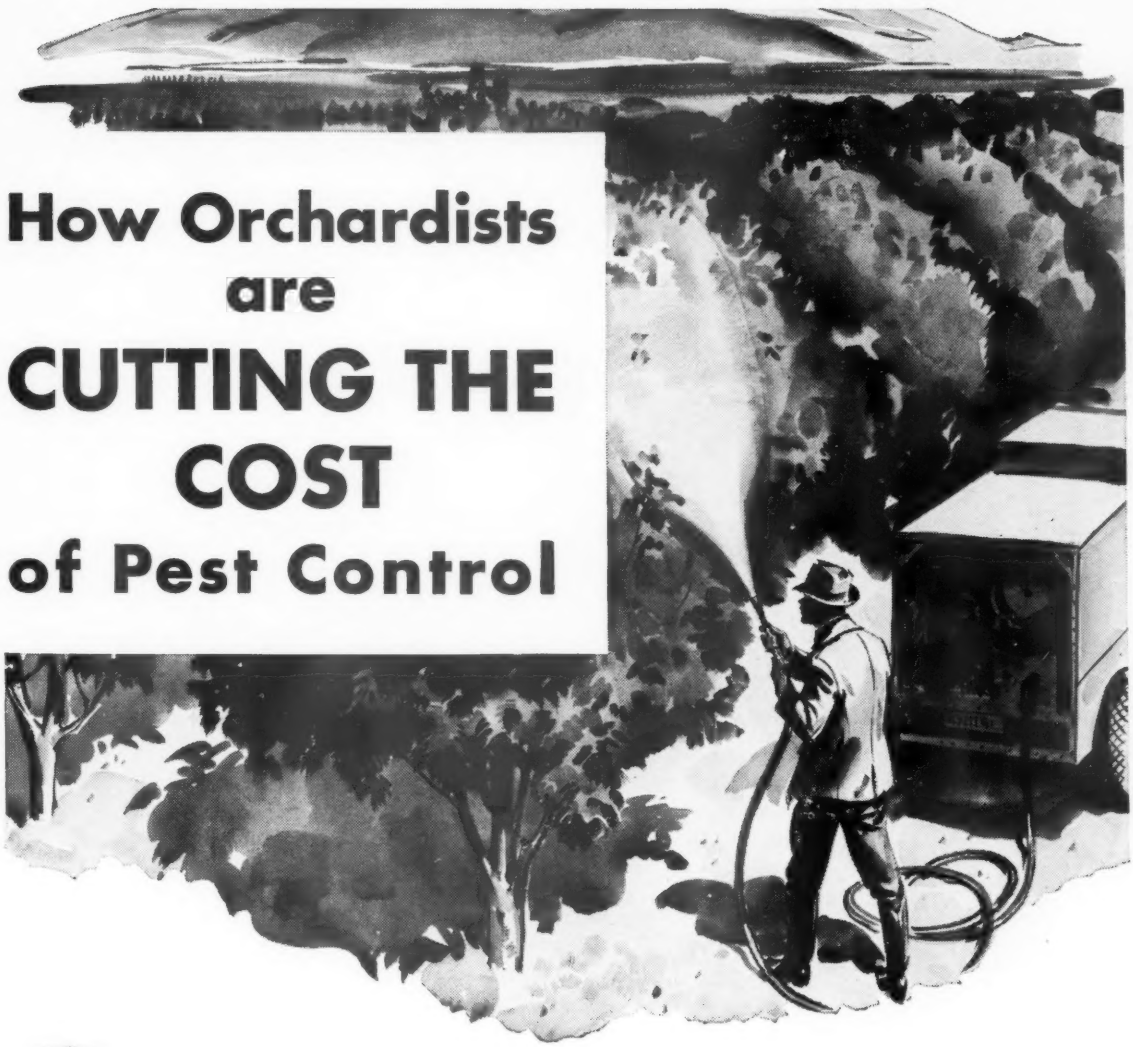

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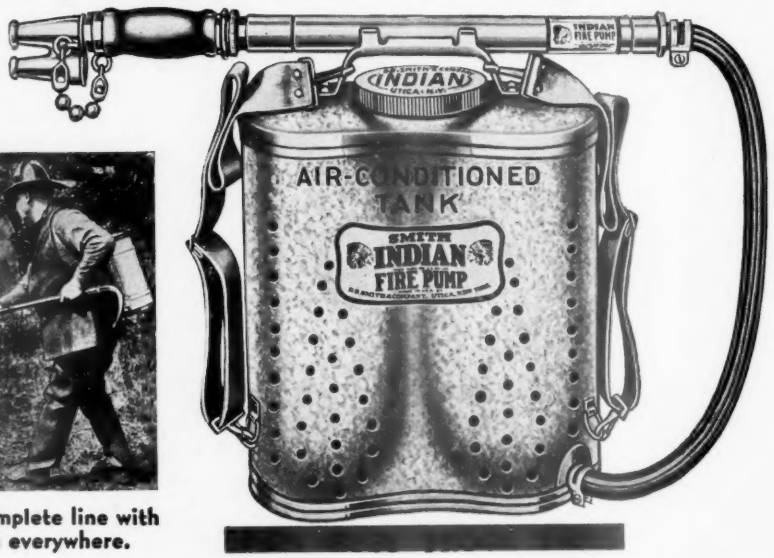

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